

## SCREWLESS ENCASEMENT SYSTEM

### TECHNICAL FIELD

This invention relates to an encasement system for various types of display articles and more particularly to a screwless encasement system for use in protecting display articles from detrimental environmental elements.

### BACKGROUND ART

It is known that certain articles displayed over time begin to show the effects of harmful environmental elements. Further, certain small articles such as collector cards like baseball cards, football cards etc are designed ultimately for viewing and reading. However, over time, continuous handling by human hands or any other means where the article or card is physically contacted in the viewing process will eventually deteriorate the cards condition. Edges and corners begin to deteriorate or lose strength as well as the tops and bottoms of the cards losing ink, shine or lamination due to the presence of oils and other substances commonly carried by human hands. This desire to keep the card in "mint" or perfect condition is in direct contrast with the desire of the collector show or provide the card to others for viewing enjoyment. It is also understood that the collector card industry occasionally requires that the cards be physically examined for authenticity for various reasons. Thus an encasement system that generally protects the card from the environment while allowing for access to the card at certain times is highly desirable

In addition there often exist certain small family documents or articles such as family pictures, identification cards and other small documents which are displayed for the benefit of all the family members and guests. These small family documents or articles are often flat articles made from or prepared on paper products. It is known that exposure to the air and sunlight have a detrimental deteriorating

effect on the paper, colors, pigments and other aspects of the articles. U.S. Patent No. 1,031,727 to Brusbeck discloses a means for preserving works of art such as oil paintings, water color paintings, graphic objects and similar articles. The invention consists in furnishing the article to be protected with an envelope of nitrogen gas and in providing a casing of peculiar construction which is adapted to contain the article and to be charged with gas.

U.S. Patent No. 4,183,160 assigned to applicant discloses a mount for a display object including drawings, paintings, thin sheets or other large thin sheets comprising a pair of opposed rectangular flexible plastic sheets arranged face to face and adapted to receive the display object therebetween. At least one of the sheets is transparent. The sheets have continuous opposed peripheral inner walls with peripheral recesses formed in the walls defining a peripheral cavity. A sealant fills the cavity throughout 360 degrees for securing and sealing together the sheets around the periphery. The space between the sheets is evacuated with the display object operatively sealed between the sheets. U.S. Patent No. 4,848,014 to Yesbick discloses a frame assembly wherein the frame and viewing area are integrally formed of clear plastic or plexiglass eliminating the need for a separate glass pane.

Consequently, a need exists for a low cost, easy to manufacture, highly reliable encasement system for small display articles that protects such articles from detrimental effects of the general environment and is also easily accessible.

## DISCLOSURE OF THE INVENTION

It is a principal object of the present invention to provide and encasement system for a display article that is reliable in its ability to protect certain display articles from the detrimental effects of the environment while allowing viewing enjoyment of the article.

It is a further object of the present invention to provide encasement system for a display article which is simple and easy to manufacture and also allows access to the display article when needed.

5 It is yet another object of the present invention to provide an encasement system for a display article which allows viewing of the display article from both sides thereby allowing two sided single viewing or single sided two display article viewing.

10 Yet still further, it is an object of the present invention to provide an encasement system using an ultraviolet protectant acrylic substrate capable of filtering ultraviolet light.

Still further, it is an object of the present invention to provide an encasement system using an ultraviolet adhesive sealant to seal and connect different sections of the encasement system.

15 Still further, it is an object of the present invention to provide an encasement system using a silicone film to seal and connect different sections of the encasement system

It is still a further object of the present invention to provide an encasement system utilizing a method of purging the air surrounding the display article and replacing the air with an inert gas.

20 In carrying out these and other objects, features and advantages of the present invention, there is provided an encasement system for a display article comprising a transparent top section having an integral cavity defined therein and a receiving channel, a bottom section having an integral cavity defined therein, a snap fit means for connecting the transparent top section to the bottom section such that  
25 when the transparent top section and bottom section are connected a display article cavity is formed by the transparent top section integral cavity and bottom section

integral cavity wherein the display article is sealed from the outside environment when disposed within the display article cavity.

In further carrying out these objects of the present invention, the encasement system may include an inner seal which is a ultraviolet adhesive or silicone film pressure tape which forms a airtight gasket sealing the environment from the outside atmosphere.

The above objects and other objects, features and advantages of the present invention are readily apparent from the following detailed description of the best mode for carrying out the invention when taken in connection with the accompanying drawings.

### BRIEF DESCRIPTION OF DRAWINGS

FIGURE 1 is a perspective, exploded view of the encasement system of the present invention;

FIGURE 2 is a cross sectional view of the encasement system of Figure 1;

FIGURE 3 is a cross sectional view of an alternative encasement system of the present invention;

FIGURE 4 is a perspective view of an alternative encasement system of the present invention; and

FIGURE 5 is a cross sectional view of the alternative encasement system of Figure 4.

### BEST MODE FOR CARRYING OUT THE INVENTION

Figure 1 illustrates the encasement system 10 of the present invention.

In this embodiment of the present invention, the encasement system 10 comprises a bottom acrylic sheet or bottom section 12 and a transparent top acrylic sheet or top section 14. The top acrylic top section is made from Acrylite OP-2 Museum Quality ultraviolet filter sheets. The present invention contemplates the use of any transparent or semi-transparent ultraviolet filtering sheets depending on the specific display article to be protected and the length of protection required. The display article 16, in this embodiment is a baseball card but as described above the display articles may be football cards, any type of sports cards or novelty cards etc. Display articles may also be certain small works of historical significance requiring special care in their display mechanism. The present invention also contemplates any form of small family documents, such a family pictures, identification cards and other noted articles often displayed for the benefit of all the family members and guests.

Referring to Figure 2, there is shown the transparent top section 14 having an integral cavity 18 defined therein and a receiving channel 20. The receiving channel includes a keyway 22. Bottom section 12 includes an integral cavity 24 defined therein. Bottom section 12 also includes and a mating shoulder 26 having a key 28. When operably connected the mating shoulder 26 is pressed into the receiving channel 20 and the key 28 is press fit and received into the keyway 22. The present invention contemplates also having the bottom section including a receiving channel and a key and the top section having a mating shoulder with a keyway such that when the mating shoulder is pressed into the receiving channel the key is press fit into the keyway. Any combination of key and key way in conjunction with a receiving channel and a extending shoulder in contemplated by the present invention.

Returning to the preferred embodiment of Figure 2, the mating shoulder 26 and receiving channel 20 create a snap fit means 30 for connecting the transparent top section 14 to the bottom section 12 such that when the transparent top section 14 and bottom section 12 are connected a display article cavity 32 is formed by the transparent top section integral cavity 18 and bottom section integral cavity 24. In this manner, in operation, the display article 16 in the display article cavity 32 is

protected from the outside environment. In the preferred embodiment, a pressurized silicone seal 34 is disposed between the transparent top section 14 and the bottom section 12 for further sealing the display article cavity 16 from the environment.

5 In operation, the encasement system of the present invention provides protection for the display article, for instance a collectible baseball card. The baseball card is protected from the air, water and dirt from everyday viewing as well and handling concerns. As discussed above, the baseball card, when provided in the encasement system is completely viewable from both sides yet is protected from most harmful effects of day to day viewing. This is very advantageous to the everyday collector as well as the serious collector. Further, the ability to open or access the encasement system simply by prying apart the top section 14 from the bottom section 12 allows for direct viewing of the card as well any authentication that may be needed for any commercial or insurance reasons. The encasement system of the present invention is "screwless" or unitary in construction and requires no additional tools or hardware for adequate connection. This feature adds to the overall aesthetic appearance of the encasement system. The present invention contemplates various sizes of display articles from articles as small as stamps to as large as letter size documents.

20 In addition to the above, the encasement system of the present invention allows for viewing of the display article 16 from both sides thereby allowing two sided single viewing or single sided two display article viewing. More specifically two cards could be placed in the encasement system with both front sides viewable to as in the normal course, one card is viewable both from and back. In the preferred embodiment, the transparent top section 14 and the bottom section 12 are manufactured of a sufficient thickness to allow the encasement system 10, when operational to stand alone either in a portrait or landscape orientation. In most instances this means having a width of three (3) inches and a length of four (4) inches in relation to a display article the size of a standard baseball card. The display article may have a thickness of approximately one (1) inch.

Referring now to Figure 3, there is shown an alternative embodiment of the present invention which is substantially identical to the embodiment of Figure 2 except that an ultraviolet adhesive seal 50 is disposed between the transparent top section 14 and the bottom section 12 for permanently sealing the display article cavity 32 from the environment. In this embodiment, the user or collector may desire a more permanent sealing system for a display article 32 that will most likely not be removed from the encasement system 10.

Figure 4 and 5 illustrates yet another alternative embodiment 60 of the present invention. In this embodiment, the ultraviolet adhesive seal 50 is disposed between the transparent top section 114 and the bottom section 112 for permanently sealing the display article cavity 132 from the environment as discussed above. For the ultimate sealing system for use with extremely valuable display articles 116 or those in which the user decides to take extreme precautions in protecting the article, the present invention contemplates the purging of substantially all the air possible from the cavity 132 and the introduction of an inert gas. More specifically, referring to Figure 4, there is shown a purging mechanism or Argon injector 70. The purging mechanism 70 is shown next to channel 72 which is in communication with display article cavity 132. The introduction of an inert gas, in the preferred embodiment, Argon is used in the system of the present invention to create a sealed Argon gas environment within the cavity 132 to surround the article 116. Air is purged from the cavity 132 through channel 72. The purged air and excess Argon escape through escape valve 71 which is in communication with display cavity 132. The inert gas is injected into the cavity 132 and fill cap 74 and valve seal cap 75 are then glued or fastened in place to seal the cavity 132. In the preferred embodiment, the Argon gas will also have a water vapor content of 4% thus making the mixture introduced in the cavity approximately 96% Argon and 4% water vapor. The present invention contemplates the use of other inert gases as well as different Argon water vapor mixtures. It is noted that the thickness of the top and bottom sections assist in long term retention of the inert gas, such as Argon within the display cavity.

The present invention contemplates a method of protecting a display article 116 comprising the steps of providing a transparent top section 114, and a

bottom section 112 having an integral cavity defined therein. Top section 114 has a receiving channel. A snap fit means for connecting the transparent top section to the bottom section 112 is provided such that when the transparent top section 114 and bottom section 112 are connected a display article cavity 132 is formed by the transparent top section integral cavity and bottom section integral cavity wherein the display article is sealed from the outside environment when disposed within the display article cavity. In the next step, at least 90% of the air in the cavity 132 and channel 72 is vacuumed out. The present invention contemplates vacuuming out anywhere from 90 to 99 % of the air from the cavity. Next an inert gas 80 is injected into the integral cavity through the channel 72 and last the inert gas 80 is sealed inside the cavity between the transparent top section and bottom section

While embodiments of the invention have been illustrated and described, it is not intended that these embodiments illustrate and describe all possible forms of the invention. Rather, the words used in the specification are words of description rather than limitation, and it is understood that various changes may be made without departing from the spirit and scope of the invention.